

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P904948

Luminaire Tested: DFN2DIP-4P3F0-040D030US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904948
REPORT IS A COMBINATION OF REPORTS P899044 AND P895917
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P3F0-040D030US835-RLLFLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

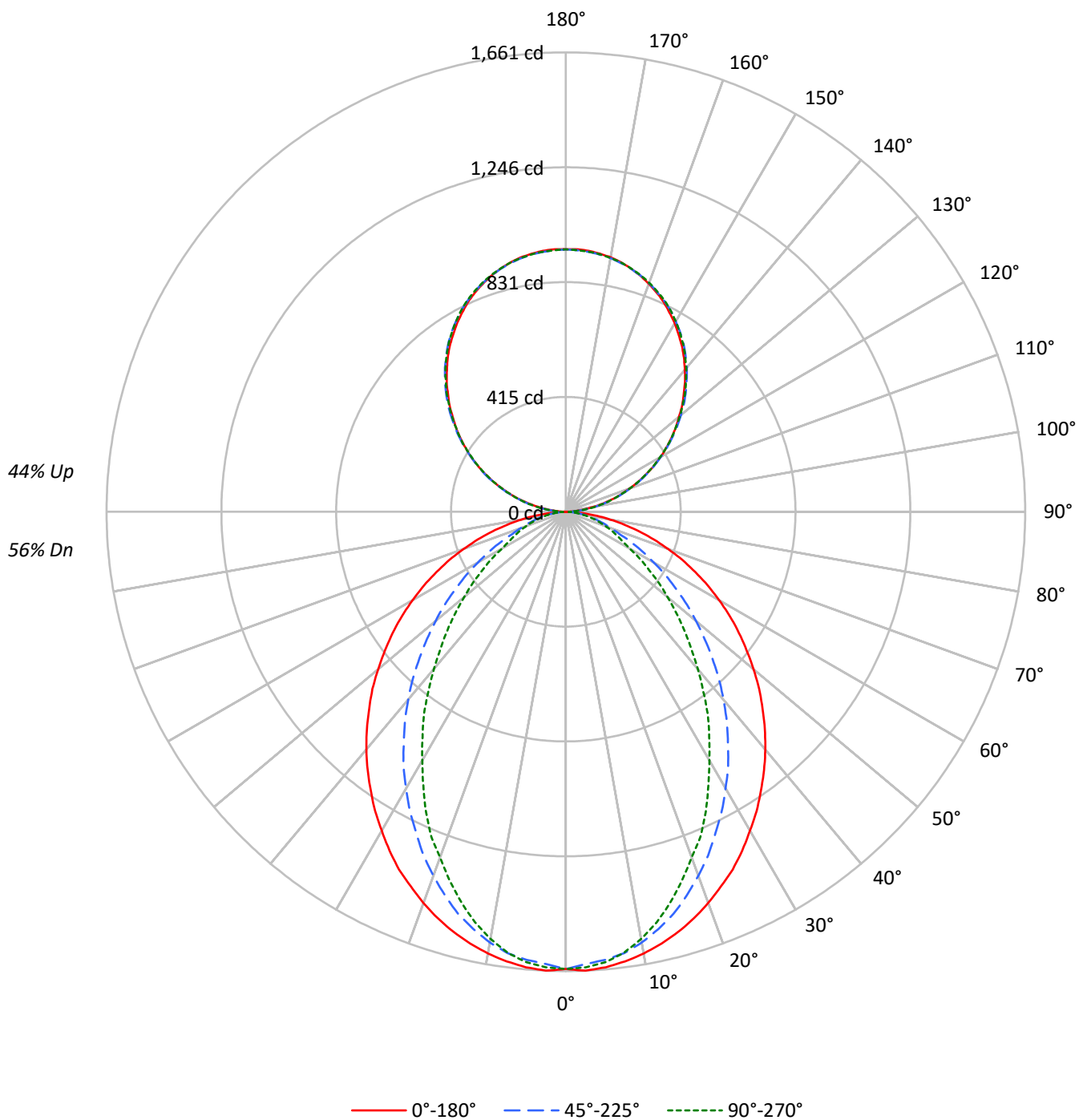
Lumens per Lamp: N/A
Luminaire Lumens: 6055.0 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.07' x L: 3.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 59.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1884	1884	1884
5°	1886	1853	1865
10°	1866	1815	1804
15°	1839	1754	1710
20°	1804	1670	1594
25°	1768	1576	1482
30°	1720	1480	1341
35°	1673	1377	1217
40°	1625	1271	1075
45°	1569	1153	946
50°	1512	1033	820
55°	1451	906	699
60°	1382	774	575
65°	1301	639	516
70°	1204	513	466
75°	1081	450	423
80°	903	373	365
85°	613	243	271

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1569 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.9	2.6
10°-20°	425.3	7.0
20°-30°	597.2	9.9
30°-40°	650.9	10.8
40°-50°	598.3	9.9
50°-60°	469.9	7.8
60°-70°	305.8	5.1
70°-80°	157.4	2.6
80°-90°	42.9	0.7
90°-100°	58.7	1.0
100°-110°	186.5	3.1
110°-120°	319.2	5.3
120°-130°	419.8	6.9
130°-140°	471.2	7.8
140°-150°	462.1	7.6
150°-160°	387.7	6.4
160°-170°	257.1	4.2
170°-180°	89.9	1.5
0°-30°	1177.4	19.4
0°-40°	1828.4	30.2
0°-60°	2896.5	47.8
0°-90°	3402.7	56.2
90°-120°	564.5	9.3
90°-150°	1917.7	31.7
90°-180°	2652.0	43.8
0°-180°	6055.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1653	1653	1653	1653	1653	
5°	1653	1646	1626	1640	1635	157
15°	1572	1556	1505	1477	1462	443
25°	1427	1379	1281	1219	1197	656
35°	1230	1154	1022	928	895	770
45°	1005	905	748	642	606	776
55°	764	648	486	396	368	683
65°	516	395	260	210	205	512
75°	275	170	120	109	108	291
85°	64	33	28	28	28	74
90°	1	10	28	26	27	6
95°	42	50	51	51	50	46
105°	172	174	176	178	178	182
115°	320	325	324	323	320	317
125°	466	473	471	468	467	416
135°	603	612	613	612	610	466
145°	732	737	742	743	740	457
155°	837	839	842	846	843	385
165°	910	909	909	915	911	257
175°	947	945	943	949	944	90
180°	949	949	949	949	949	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1660.7	1653.2	1636.7	1651.8	1648.7
5°	1653.2	1645.7	1626.2	1639.7	1635.3
7.5°	1639.7	1630.8	1609.9	1615.7	1608.3
10°	1621.8	1611.3	1581.4	1576.8	1568.0
12.5°	1599.4	1585.9	1545.4	1536.5	1520.0
15°	1572.4	1555.9	1505.1	1476.7	1461.8
17.5°	1541.0	1517.0	1454.1	1421.3	1397.3
20°	1505.1	1475.1	1400.3	1363.0	1330.0
22.5°	1466.2	1431.8	1344.9	1294.1	1271.8
25°	1427.3	1379.4	1280.6	1219.4	1196.8
27.5°	1381.0	1330.0	1220.8	1150.5	1116.0
30°	1331.6	1274.6	1154.9	1078.7	1038.3
32.5°	1283.7	1214.8	1092.2	1002.4	964.9
35°	1229.9	1153.5	1021.9	927.6	894.6
37.5°	1177.5	1095.1	956.0	852.7	815.4
40°	1122.1	1032.4	887.2	781.0	742.1
42.5°	1065.2	969.5	818.4	707.6	670.3
45°	1005.4	905.1	748.1	641.8	605.9
47.5°	948.6	842.4	680.8	574.5	541.6
50°	885.7	779.5	614.9	511.6	480.3
52.5°	824.3	712.1	552.1	453.3	424.9
55°	764.5	647.8	486.2	396.5	368.1
57.5°	703.2	583.5	427.9	344.1	320.2
60°	640.3	520.6	366.5	290.3	266.4
62.5°	579.1	459.4	314.1	242.4	230.5
65°	516.2	394.9	260.3	209.5	204.9
67.5°	456.4	335.1	209.5	184.0	179.5
70°	393.5	276.8	173.5	158.6	152.5
72.5°	333.7	222.9	145.1	133.2	130.2
75°	275.2	170.5	119.7	109.2	107.8
77.5°	217.0	121.1	94.3	88.3	85.2
80°	163.0	86.8	71.7	65.9	65.9
82.5°	113.7	58.4	49.4	46.3	46.3
85°	64.3	32.9	28.4	28.4	28.4
87.5°	24.0	11.9	11.9	10.5	10.5
90°	0.9	10.3	28.0	26.3	27.2
92.5°	17.7	24.0	24.9	25.7	25.7
95°	41.8	49.8	51.2	51.2	49.8
97.5°	69.5	76.9	80.1	80.1	80.1
100°	101.5	108.1	110.4	110.4	109.6
102.5°	135.3	140.2	143.3	144.2	143.3
105°	172.2	174.5	176.2	177.6	177.6
107.5°	208.8	212.2	212.2	212.8	208.8
110°	244.3	248.9	248.9	248.9	246.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	282.6	287.5	286.6	284.3	282.6
115°	320.4	324.9	323.5	322.7	320.4
117.5°	357.8	364.1	360.1	357.8	355.5
120°	395.6	401.9	395.6	395.6	393.0
122.5°	429.9	437.9	433.9	431.6	429.9
125°	466.0	473.1	470.8	468.2	467.4
127.5°	501.1	510.0	506.9	503.4	501.1
130°	534.0	544.3	542.9	541.2	538.0
132.5°	570.9	578.9	579.5	575.5	573.2
135°	602.7	611.5	613.3	612.4	610.1
137.5°	638.1	645.3	646.7	646.2	642.7
140°	669.3	676.5	680.5	680.5	677.3
142.5°	701.4	708.5	710.8	711.7	708.5
145°	731.7	737.4	742.0	742.8	739.7
147.5°	758.9	766.0	769.4	770.9	767.7
150°	786.9	791.8	794.9	797.5	794.9
152.5°	811.8	816.6	820.6	823.8	820.6
155°	836.7	838.9	841.5	845.5	843.0
157.5°	858.1	859.8	861.3	867.0	863.0
160°	877.3	879.0	879.9	884.7	881.3
162.5°	895.0	895.0	895.9	901.3	897.3
165°	910.2	909.3	909.3	915.0	911.0
167.5°	923.9	921.3	921.3	927.0	923.0
170°	934.2	931.9	931.1	936.8	931.9
172.5°	941.3	939.1	938.2	943.9	939.1
175°	947.1	944.8	943.1	948.8	943.9
177.5°	950.2	947.9	946.2	951.1	946.2
180°	948.8	948.8	948.8	948.8	948.8

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	9.87	10.76	10.78	11.68	12.86	5.83	6.72	6.74	7.64	8.82
	3H	11.55	12.34	12.47	13.27	14.48	7.02	7.81	7.94	8.74	9.95
	4H	12.16	12.90	13.09	13.84	15.06	7.47	8.21	8.40	9.15	10.37
	6H	12.58	13.27	13.53	14.21	15.44	7.79	8.47	8.73	9.42	10.65
	8H	12.71	13.36	13.66	14.32	15.55	7.88	8.53	8.83	9.49	10.72
	12H	12.77	13.39	13.73	14.34	15.59	7.92	8.54	8.88	9.49	10.75
4H	2H	9.90	10.64	10.84	11.58	12.80	6.43	7.18	7.37	8.12	9.33
	3H	11.72	12.34	12.68	13.31	14.54	7.78	8.40	8.73	9.37	10.60
	4H	12.42	12.98	13.38	13.94	15.20	8.33	8.89	9.29	9.85	11.11
	6H	12.93	13.42	13.90	14.40	15.66	8.74	9.23	9.72	10.21	11.47
	8H	13.10	13.56	14.08	14.54	15.81	8.87	9.32	9.84	10.30	11.57
	12H	13.20	13.61	14.19	14.60	15.88	8.93	9.34	9.92	10.34	11.61
8H	4H	12.39	12.84	13.36	13.82	15.09	8.61	9.06	9.58	10.04	11.31
	6H	12.95	13.32	13.95	14.34	15.61	9.12	9.49	10.12	10.52	11.78
	8H	13.16	13.49	14.17	14.50	15.79	9.31	9.64	10.31	10.65	11.93
	12H	13.30	13.59	14.31	14.59	15.93	9.42	9.71	10.43	10.72	12.05
12H	4H	12.34	12.75	13.33	13.75	15.02	8.61	9.02	9.61	10.02	11.29
	6H	12.92	13.25	13.93	14.26	15.55	9.17	9.50	10.18	10.51	11.79
	8H	13.14	13.43	14.15	14.44	15.77	9.37	9.67	10.39	10.67	12.00